CLAIMS

1. A method of diagnosing CRC or a predisposition to developing CRC in a subject, comprising determining a level of expression of C10orf3 in a patient derived biological sample, wherein an increase of said level compared to a normal control level of said gene indicates that said subject suffers from or is at risk of developing CRC.

2. The method of claim 1, wherein said increase is at least 10% greater than said normal control level.

3. The method of claim 1, wherein the expression level is determined by any one method selected from group consisting of:
(a) detecting the mRNA of C10orf3,
(b) detecting the protein encoded by C10orf3, and
(c) detecting the biological activity of the protein encoded by C10orf3,

4. The method of claim 1, wherein said level of expression is determined by detecting hybridization of C10orf3 probe to a gene transcript of said patient-derived biological sample.

5. The method of claim 4, wherein said hybridization step is carried out on a DNA array.

6. The method of claim 1, wherein said biological sample comprises an epithelial cell.

7. The method of claim 1, wherein said biological sample comprises CRC cell.

8. The method of claim 4, wherein said biological sample comprises an epithelial cell from a CRC.

9. A method of screening for a compound for treating or preventing CRC, said method comprising the steps of:
a) contacting a test compound with a polypeptide encoded by a nucleic acid of C10orf3;
b) detecting the binding activity between the polypeptide and the test compound; and
c) selecting a compound that binds to the polypeptide.

10. A method of screening for a compound for treating or preventing CRC , said method comprising the steps of:
a) contacting a candidate compound with a cell expressing C10orf3, and
b) selecting a compound that reduces the expression level of C10orf3.

11. The method of claim 10, wherein said cell comprises a colorectal cancer cell.

12. A method of screening for a compound for treating or preventing CRC, said method comprising the steps of:
    a) contacting a test compound with a polypeptide encoded by a nucleic acid of C10orf3;
    b) detecting the biological activity of the polypeptide of step (a); and
    c) selecting a compound that suppresses the biological activity of the polypeptide encoded by a nucleic acid of C10orf3 in comparison with the biological activity detected in the absence of the test compound.

13. The method of claim 12, wherein the biological activity of the polypeptide is cell proliferative activity.

14. The method of claim 12, wherein the biological activity of the polypeptide is ATP-ase activity.

15. A method of screening for compound for treating or preventing CRC, said method comprising the steps of:
    a) contacting a candidate compound with a cell into which a vector comprising the transcriptional regulatory region of C10orf3 and a reporter gene that is expressed under the control of the transcriptional regulatory region has been introduced
    b) measuring the activity of said reporter gene; and
    c) selecting a compound that reduces the expression level of said reporter gene, as compared to a control.

16. A kit comprising a detection reagent which binds to nucleic acid sequence or polypeptide of C10orf3.

17. A method of treating or preventing CRC in a subject comprising administering to said subject an antisense composition, said composition comprising a nucleotide sequence complementary to a coding sequence of C10orf3.

18. A method of treating or preventing CRC in a subject comprising administering to said subject a siRNA composition, wherein said composition reduces the expression of a nucleic acid sequence of C10orf3.

19. The method of claim 18, wherein the siRNA comprises a sense strand comprising the nucleotide sequence of SEQ ID NO: 21 as the target sequence.

20. The method of claim 19, said siRNA has the general formula 5'-[A]-[B]-[A']-3', wherein [A] is a ribonucleotide sequence coresponding to the nucleotide sequence of SEQ ID NO:

21,

[B] is a ribonucleotide sequence consisting of 3 to 23 nucleotides, and

[A'] is a ribonucleotide sequence consisting of the complementary sequence of [A].

21. The method of claim 18, wherein said composition comprises a transfection-enhancing agent.

22. A method for treating or preventing CRC in a subject comprising the step of administering to said subject a pharmaceutically effective amount of an antibody or fragment thereof that binds to a protein encoded by nucleic acid of C10orf3.

23. A method of treating or preventing CRC in a subject comprising administering to said subject a vaccine comprising a polypeptide encoded by a nucleic acid of C10orf3 or an immunologically active fragment of said polypeptide, or a polynucleotide encoding the polypeptide.

24. A method for treating or preventing CRC in a subject, said method comprising the step of administering a compound that is obtained by the method according to any one of claims 9-15.

25. A composition for treating or preventing CRC, said composition comprising a pharmaceutically effective amount of an antisense polynucleotide or small interfering RNA against a polynucleotide of C10orf3 as an active ingredient, and a pharmaceutically acceptable carrier.

26. The composition of claim 25, wherein the siRNA comprises a sense strand comprising the nucleotide sequence of SEQ ID NO: 21 as the target sequence.

27. The composition of claim 26, said siRNA has the general formula 5'-[A]-[B]-[A']-3', wherein [A] is a ribonucleotide sequence coresponding to the nucleotide sequence of SEQ ID NO: 21,

[B] is a ribonucleotide sequence consisting of 3 to 23 nucleotides, and

[A'] is a ribonucleotide sequence consisting of the complementary sequence of [A].

28. A composition for treating or preventing CRC, said composition comprising a pharmaceutically effective amount of an antibody or fragment thereof that binds to a protein encoded by nucleic acid of C10orf3 as an active ingredient, and a pharmaceutically acceptable carrier.

29. A composition for treating or preventing CRC, said composition comprising a pharmaceutically effective amount of the compound selected by the method of any one of claims 9-15 as an active ingredient, and a pharmaceutically acceptable carrier.

30. A double-stranded molecule comprising a sense strand and an antisense strand, wherein the sense strand comprises a ribonucleotide sequence corresponding to SEQ ID NO: 21, and wherein the antisense strand comprises a ribonucleotide sequence which is complementary to said sense strand, wherein said sense strand and said antisense strand hybridize to each other to form said double-stranded molecule, and wherein said double-stranded molecule, when introduced into a cell expressing the C10orf3 gene, inhibits expression of said gene.

31. The double-stranded molecule of claim 30, wherein said sense strand comprises from about 19 to about 25 contiguous nucleotides from SEQ ID No:1.

32. The double-stranded molecule of claim 30, wherein said sense strand consists of the ribonucleotide sequence corresponding to SEQ ID NO: 21.

33. The double-stranded molecule of claim 30, wherein a single ribonucleotide transcript comprises the sense strand and the antisense strand, said double-stranded molecule further comprising a single-stranded ribonucleotide sequence linking said sense strand and said antisense strand.

34. A vector encoding the double-stranded molecule of claim 30.

35. The vector of claim 34, wherein the vector encodes a transcript having a secondary structure, wherein the transcript comprises the sense strand and the antisense strand.

36. The vector of claim 34, wherein the transcript further comprises a single-stranded ribonucleotide sequence linking said sense strand and said antisense strand.